

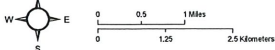
Harrisburg Map

Boone County, MO



- Harrisburg Parcels
- County Line
- Project Area
- Met Tower
- Transmission Lines
- Road Classification
 - Interstate Highway
 - US/State Highway
 - County Road/Highway
 - Local Road
 - Dist/Unpaved Road

Date: February 28, 2019
Map Scale: 1:32,000
Projection: NAD 1983 UTM Zone 14N
Datum: North American 1983



e-on

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Data Source: Esri

HARRISBURG/NORTHERN BOONE COUNTY COMMUNITY QUESTIONS

PROJECT SCOPE AND GENERAL QUESTIONS FOR E.ON

1. What is the total number of acreage under consideration? Potentially 15,000 to 30,000 acres, or 20 square miles?
2. How many acres are needed for each wind turbine and the additional components required? Please specify area needed for each component.
3. There are farms, residential areas, and small tracts in this area – not just wide swaths of farmland. The population of Boone County is 178,000. How can E.ON justify placing a wind farm in a populated area?
4. What is the amount E.ON will receive in tax credits for this project?
5. In addition to tax credits, will E.ON receive other compensation or subsidies, to build the wind farm and if so, what is the monetary amount?
6. Will E.ON receive subsidies for the amount of energy generated each year?
7. Where will the energy from these wind turbines be used?
8. Does E.ON plan to sell the wind farm once it is constructed?
9. How many wind farms has E.ON built in the United States?
10. How many of those wind farms does E.ON still own?
11. For the other wind farms that E.ON has built, did you communicate with all landowners in the proposed area about the project?
12. Did you inform all landowners who were signing leases and for how much?
13. Did you have community meetings with all landowners in the area?
14. Did those wind farms lead to division in the community?
15. Does E.ON have any environmental impact studies to share for the windfarms they have constructed?
16. What was the final outcome of the 23 lease-holders in Texas suing E.ON saying they “carelessly and negligently failed to adequately disclose the true nature and effects that the wind turbines would have on the plaintiffs’ homes?” How many of them relocated from the area?
17. Does E.ON plan to meet with the entire community about this project?

WIND TURBINES

18. How tall are the wind turbines, including the rotor blades?
19. What will be the maximum power output in megawatts?

20. How loud are the wind turbines?
21. Is the noise bearable?
22. Do the turbines cause a shadow flicker? Do they cause a strobe effect?
23. Will they be close to roads or property lines?
24. Is there infrasound? If so, is it bearable?
25. What is the landscape design of the 100-150 turbines planned? What effect will this design have on any shadow flicker, strobe effect, infrasound, and noise experienced by landowners?
26. What are the potential health issues?
27. What is the expected life of the wind turbines?
28. What will be constructed with each turbine? How much steel, concrete, and other materials will that take?
29. There are several models of wind turbines including new technology where rotors are not needed. Will these wind turbines utilize the latest technology? No rotors needed?
30. Do the wind turbines create vibrations?
31. How far away would a community resident feel the effects of the wind turbines? Please specify feet or miles.
32. How far away would a community resident hear the wind turbines? Please specify feet or miles.
33. Are there flashing colored lights on the turbines? Continuously or when rotor blades are turning?
34. Are there other warning systems in place to warn off birds, bats, etc.?
35. In other wind farm developments, what has been the length (in feet) for the setbacks from the turbines?
36. What is the safety setback for maintenance workers (in feet)?
37. What is the safe evacuation area (in feet)?
38. What is the wind level (on average) that the met mast has been measuring?
39. Will power lines/transmission lines be developed for the wind turbines? Underground or above ground?
40. Will those power/transmission lines involve easements from property owners not involved in the leases?
41. What is the amount of oil each turbine uses annually? Where is that oil stored? Has groundwater contamination occurred in other projects?
42. What other fossil fuels go into the creation/maintenance of the turbines?

- 43. Do the wind turbines produce sufficient energy to equal the amount of energy that went into producing, building, maintaining them?
- 44. What is the projected construction time?
- 45. How efficient (percentagewise) are the wind turbines planned?
- 46. Do the wind turbines operate continuously during those times that they generate energy?
- 47. There is not much wind in Boone County. At what levels of wind do the wind turbines operate?

EFFECTS

- 48. Will this increase our property taxes?
- 49. Will this increase the cost of our property owners insurance?
- 50. Will we be able to keep our property owners insurance or will our insurance companies cancel our policies?
- 51. What will the wind farm do to property values? Property values for future generations?
- 52. Electric bills of property owners in some wind farm areas increased as the wind energy provided was intermittent. Will that be the case here?
- 53. What will the proposed wind farm do to the length of time it takes to sell a property in or near the proposed area? Once the wind farm is in operation?
- 54. The demand for property in the area is already diminishing due to the potential windfarm and property sales have been cancelled. Will landowners who cannot sell their property/real estate agents losing sales and commissions be compensated for their losses?
- 55. Do you have real estate data for other windfarm areas? Does that data show changes in property values? Changes in average time to sale?
- 56. Will the wind farm bring local jobs during construction and afterward?
- 57. What does the construction project do to existing roads?
- 58. What are the known effects of wind turbines on livestock?
- 59. What are the known effects of wind turbines on people?
- 60. What are the known effects of wind turbines on wildlife? Boone County has a healthy deer and turkey population. Will that wildlife leave the area once the windfarm is constructed?

61. This area is in a migratory bird path as well as a home to nesting bald eagles, hawks, owls, etc. What are the known effects on migratory birds, hawks, bats, owls, bald eagles, etc.?
62. What are the known effects of wind turbines on soil? Do wind turbines dessicate the soil?
63. Do earthworms and other valuable bugs and insects leave once the wind farm is constructed?
64. What safety features does E.ON have in place to prevent damage from wind turbines that break apart in a storm, throw ice, etc.? Who pays for damages if events like that occur?
65. Do wind turbines cause interference with cell phone signals, radio signals, television signals, satellite TV, etc.? Who is responsible if the wind turbines do not prevent homeowners from receiving television service, etc.?

CONTRACTUAL

66. What do individual landowners signing the leases have to gain?
67. What amount are those signing leases receiving for each wind turbine?
68. Do those signing leases receive a certain amount for each turbine annually no matter the amount of wind generated?
69. What does the community have to gain?
70. If existing roads are damaged, will E.ON repair those roads to the shape that they were in (or better) at the time construction began?
71. Will MODOT receive additional funds for road degradation to use to rebuild roads once the construction phase is complete?
72. Will the local community/Boone county receive additional funds for road degradation to use to rebuild roads once the construction phase is complete?
73. Will the amount of energy that the wind turbines generate affect the amount received by the school district(s) each year in terms of tax dollars?
74. If E.ON were to sell this wind farm to a public utility, would the school district continue to receive the same amount of funds in terms of tax dollars?
75. What is the length (timeframe in years) of the lease?
76. Can landowners signing the lease cancel the lease?

77. Will wind turbines be removed due to damage or obsolescence in a reasonable amount of time? If so, what is the timeframe and who removes the turbines?
78. If turbine removal is the company's responsibility and the company sells the windfarm to another company, whose responsibility will it be to remove the wind turbines?
79. If the company sells the wind farm to another company, will the original contractual terms be honored by the new company?
80. Who pays to have the wind turbines removed? Does E.ON pay the landowner a lump sum prior to installation, for expected removal?
81. Will the property be restored to its original condition once the wind turbines are removed?
82. What does the construction project do to the property being accessed? Are new roads built on the properties themselves? If so, with what kind of material?
83. What other changes to the landowner's property occur at the time of construction and after construction?
84. What are the landowner's rights in terms of the use of their property under the setback area?
85. What are the landowner's rights in terms of the safety of livestock in the area, including those whose property is not leased but is affected?
86. If livestock are not permitted in the setback area, does E.ON fence the setback area and provide the fencing at no cost to the landowner?
87. Will the Missouri department of conservation and other environmental, health, agricultural, entomological, and zoological organizations be permitted to conduct an environmental impact study before and after the wind turbines are constructed, providing those delegated by those institutions with full access to monitor the setback areas for changes to the environment, the number of deceased animals and other related research? Those organizations would need to have access to collect the data, share it with the community, and publish their findings.
88. If E.ON does not receive signed leases from sufficient landowners to comprise 10,000 acres, will that end the proposed project?

Wind Energy Information

Wind energy in the United States: With over 52,000 wind turbines amounting to over 96,000 megawatts (MW) of wind capacity installed in the United States currently, wind energy has established itself to be a safe, effective, and proven way to generate clean electricity in our shared environment. Nearly all 50 states are home to wind turbines today, and authorities agree that wind energy is a clear path into our clean energy future.

Wind energy in Missouri: Currently Missouri ranks 21st in the nation for installed wind capacity, with 8 projects made up of 499 turbines online totaling 959MW of capacity. Not only are there wind installations in Missouri - there are 11 active turbine manufacturing facilities in the state. In 2017 the number of direct and indirect jobs supported by the wind industry in Missouri was 1001 to 2000. During 2017, wind energy provided 2.3% of all electric generation within Missouri - equivalent to powering 181,000 homes. Missouri has the resources and potential to become an industry leader with its available wind speeds and manufacturing capabilities; E.ON is excited to help Missouri realize this potential.

E.ON's experience: E.ON is among the most highly respected renewable energy companies in the U.S. with a track record of excellence through its fleet of 23 operational wind farms. We are experienced professionals who know the ins and outs of the development and operations of wind energy facilities, and we make every effort to minimize our impact on the lands and maximize our contributions to the surrounding community. Participating in a wind project is financially rewarding to both individual landowners & the community; we offer generous lease payments to landowner participants, make our best efforts to hire locally during construction and operations, and we will contribute significantly to the local tax pool during operations.

Harrisburg Wind Farm overview: Missouri's recent implementation of a renewable portfolio standard (RPS) introduced a new need for additional renewable resources in the state, and E.ON is excited to participate in the push toward Missouri's clean energy future. The Harrisburg Wind Farm has been under development for over a year and holds the potential to bring a new source of livelihood to Boone County. E.ON has leased roughly 2,500 acres so far. A meteorological tower (MET Tower) was erected in December 2018 to measure patterns in wind speed and direction, and are in the process of identifying an ideal location for a second MET tower. Wind speeds in the area are typically between 6-7 Meters per second (13.42-15.66 MPH), which is adequate to support a utility scale wind farm.

Facility footprint: On average, a wind turbine occupies a footprint of roughly one acre, including secondary infrastructure such as access roads, underground or overhead electrical lines. Within E.ON's operational wind farms, on average less than 2% of leased land is disturbed by turbines or related infrastructure. Although a large foundation exists at the base of each turbine, soil is backfilled up to the base of the turbine to a depth of 36 inches or greater; the base of the wind turbine is approximately 15 feet wide and can be maneuvered around with farm equipment easily. Access roads 16-feet wide are constructed to connect wind turbines to existing public roads for operations and maintenance purposes. These gravel access roads are then maintained by E.ON, and are often used by the landowners to better navigate their properties. Prior to constructing any wind facilities, E.ON consults participating landowners with a preliminary design layout to seek feedback on adjustments that may better suit their needs or uses for the property.

Landowner payments: E.ON's leases have been adapted throughout our deep experience to ensure a positive and mutually beneficial long-term relationship with participating landowners. Our lease agreement ensures a stable payment to the landowner for the life of the wind project. The initial operations term of a wind project is 30 years with an option to extend by two additional 10-year terms. When considering the long-term revenue, the minimal property impacts, and the lifelong benefits to the local area and planet, most find it to be a worthwhile relationship. Wind energy facilities act as secondary cash crops and provide long-term payments no matter how rainy or dry the planting seasons are. Leased landowners are guaranteed to receive direct payments for the life of the wind project regardless of whether or not a wind turbine gets built on their property.

Crop damage compensation & drainage tile repair: E.ON recognizes that in many cases the land we lease is the landowners' livelihood. While some crop and drainage tile damage will occur during construction of the wind farm, we provide the following financial and restoration protections to landowners to ensure they are made whole:

- Crop Damage Compensation is equal to the acreage of damaged crops, multiplied by the July futures price of the affected crops, multiplied by crop yield, multiplied by 1.4. We will reimburse landowners for any reasonable and verifiable crop losses on cultivated lands on the property that may have happened as a direct result of our activities.
- If there are drainage tiles on the property we will make commercially reasonable repairs and replacements to any tile damage that our construction or operation activities cause on the property. In addition, we will pay crop damages for any crops damaged by flood due to broken tile directly attributable to our activities on the property."

Equipment removal bond:

E.ON will provide for establishing a removal bond in the amount of the difference between the reasonable salvage value of the equipment and the reasonable cost of removal of the equipment and restoration of the property. We will remove foundations up to a depth of 36 inches below the surface of the land, and we will remove any wind power facilities placed on property.

Sound considerations: To put the sound of a modern wind turbine in context, the operating sound level is comparable to that of a modern refrigerator at 500 feet away (less than 50 decibels).

Impact on property value:

- A 2013 study prepared for the US Dept. of Energy by the Lawrence Berkeley National Laboratory collected data from more than 50,000 home sales among 27 counties in nine states. These homes were within 10 miles of 67 different wind facilities, and 1,198 sales were within 1 mile of a turbine—many more than previous studies have collected. The data span the periods well before announcement of the wind facilities to well after their construction and find no statistical evidence that home values near turbines were affected in the post-construction or post-announcement/pre-construction periods.
- A survey was conducted of the County Assessors in all 18 Illinois Counties that host one or more operational wind farm projects. Without exception, the Assessors reported that there was no market evidence of a negative impact upon residential property values as a result of the development of and the proximity to a wind farm. (Assessed Valuation Study conducted by MaRouse & Company – Illinois certified real estate appraisal company)

Benefits to the County and schools: Wind farms are multi-million-dollar investments; accordingly, we as the owners become significant contributors to the local tax pools where we operate. For example, the recently constructed E.ON Radford's Run Wind Farm will contribute approximately \$58 million dollars in direct tax revenue payments to Macon County, Illinois, and applicable taxing districts over the life of the wind energy project. This significant cash infusion could be used by the County to help reduce the tax burden on its residents, assist schools, provide additional revenue for local police, fire, and first responders, and improve the quality of local roads.

Environmental impact: No form of energy generation is free from impact on the surrounding environment. However, studies have shown wind energy's impacts to be the lowest; electric generation via wind emits no air or water pollution, requires no mining or drilling for fuel, uses no water in the generation of electricity, and creates no hazardous or radioactive waste requiring permanent storage. The United Nation's Intergovernmental Panel on Climate Change predicts that climate change may contribute to the extinction of 20-30 percent of all species by 2030. Mitigating climate change poses an immediate need to reduce greenhouse gas pollution, and wind energy can play a role in achieving this. For instance, based on the cumulative 60 GW installed through 2012, wind energy offset approximately 95.9 million tons of CO₂ annually. This is roughly 4.2 percent of CO₂ emissions from the entire power sector — equivalent to taking 17.5 million cars off the road. Wind energy production also emits no other airborne pollutants, such as particulates, methane, mercury, SO_x and NO_x. All of these pollutants have a proven harmful effect on human health and the environment, including wildlife, and the traditional alternatives all emit varying levels of these harmful pollutants.

WIND ENERGY IN MISSOURI



Wind energy means economic development for Missouri.

Missouri's proximity to important wind energy areas, combined with manufacturing expertise, could make Missouri a manufacturing powerhouse for the wind industry. Many companies in Missouri have already entered the wind energy supply chain, and expanding wind power will create even more opportunities for manufacturers and service suppliers. For example, leading manufacturer ABB, Inc. operates power transmission manufacturing facilities in St. Louis and Jefferson City.

BENEFITS

Jobs & Economic Benefits

An investment in wind power is an investment in jobs, including jobs in operations and maintenance, construction, manufacturing and many support sectors. In addition, wind projects produce lease payments for landowners and increase the tax base of communities.

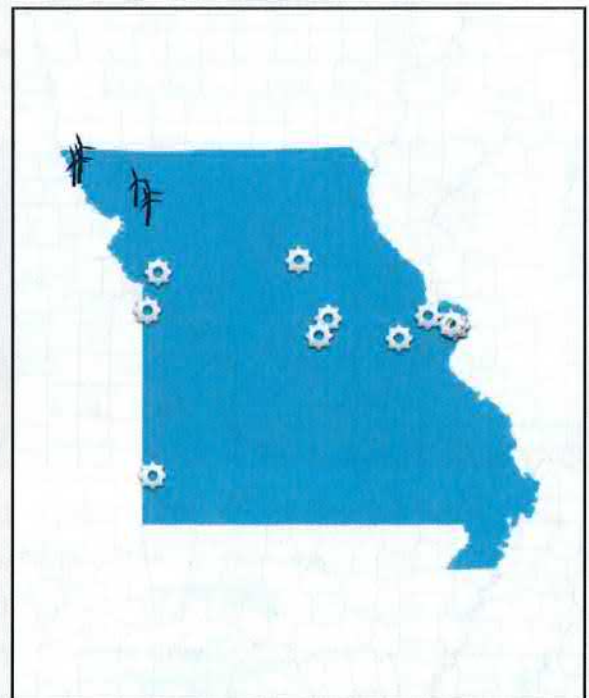
- 2017 direct and indirect jobs supported: **1,001 to 2,000**
- Total capital investment through 2017*: **\$1.8 billion**
- Annual land lease payments*: **\$1- \$5 million**

*Calculations based on national and state averages.

Wind-Related Manufacturing

The United States has over 500 manufacturing facilities producing products for the wind industry that range from blade, tower and turbine nacelle assembly facilities to raw component suppliers, including fiberglass and steel.

- Number of active manufacturing facilities in the state: **11**



Online Wind Project



Manufacturing Facility

Wind Projects as of 4Q 2018

- Installed wind capacity: **959 MW**
 - » State rank for installed wind capacity: **21st**
- Number of wind turbines: **499**
 - » State rank for number of wind turbines: **22nd**
- Wind projects online: **8 (Projects above 10 MW: 7)**
- Wind capacity under construction: **0 MW**
- Wind capacity in advanced development: **793 MW**

Wind Generation

During 2017, wind energy provided **2.3%** of all in-state electricity production.

- State rank for share of electricity: **28th**
- Equivalent number of homes powered by wind in 2017: **181,100**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **278,695 MW**
(Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: **NA MW** (Source: NREL)

Environmental Benefits

Generating wind power creates no emissions and uses virtually no water.

- 2017 annual state water consumption savings*: **8.0 billion gallons**
- 2017 equivalent number of water bottles saved: **60.3 billion**
- 2017 annual state carbon dioxide (CO₂) emissions avoided: **14 million metric tons**
- 2017 equivalent cars' worth of emissions avoided: **3.0 million**

*Based on national average water consumption factors for coal and gas plants



Renewable Portfolio Standard

A 2008 ballot initiative replaced Missouri's existing voluntary targets with a mandatory renewable portfolio standard (RPS) that requires investor owned utilities to supply 15% of their electricity sales with renewable resources by 2021. Wind energy has historically been the renewable resource of choice to meet renewable standards requirements in Missouri.

<u>Project</u>	<u>MW</u>	<u>COD</u>	<u>Location</u>	<u>Acreage</u>	<u>Turbine Type</u>	<u># of Turbines</u>
Forest Creek	124.20	Mar-07	Sterling County, TX	22,000	Siemens 2.3 MW	54
Munnsville	34.50	Oct-07	Madison County, NY	4,500	GE 1.5 MW	23
Sand Bluff	90.00	Jan-08	Glasscock County, TX	12,700	Gamesa 2 MW	45
Roscoe	209.00	Feb-08	Nolan & Mitchell Counties, TX	20,000	Mitsubishi 1 MW	209
Champion	126.50	Feb-08	Nolan County, TX	14,600	Siemens 2.3 MW	55
Panther Creek I	142.50	Sep-08	Howard & Glasscock Counties, TX	23,300	GE 1.5 MW	95
Panther Creek II	115.50	Dec-08	Glasscock & Sterling Counties, TX	14,600	GE 1.5 MW	77
Pyron	249.00	Feb-09	Scurry & Fisher Counties, TX	26,700	GE 1.5 MW	166
Panther Creek III	199.50	Aug-09	Sterling County, TX	27,800	GE 1.5 MW	133
Inadale	197.00	Sep-09	Nolan & Scurry Counties, TX	23,100	Mitsubishi 1 MW	197
Papalote Creek I	179.85	Sep-09	San Patricio County, TX	17,000	Vestas 1.65 MW	109
Stony Creek	52.50	Nov-09	Somerset County, PA	4,300	GE 1.5 MW	35
Papalote Creek II	200.10	Dec-10	San Patricio County, TX	17,550	Siemens 2.3 MW	87
Settlers Trail	150.40	Oct-11	Iroquois County, IL	13,850	GE 1.6 MW	94
Pioneer Trail	150.40	Jan-12	Ford & Iroquois Counties, IL	12,400	GE 1.6 MW	94
Magic Valley	203.28	Oct-12	Willacy County, TX	16,000	Vestas 1.8 MW	112
Wildcat	202.50	Dec-12	Madison & Tipton Counties, IN	17,607	GE 1.6 MW	125
Anacacho	99.88	Dec-12	Kinney County, TX	14,779	Vestas 1.8 MW	55
Grandview	211.22	Dec-14	Carson County, TX	38,500	GE 1.79 MW	118
Colbeck's Corner	200.48	Apr-16	Carson & Gray Counties, TX	20,000	GE 1.79 MW	112
Bruenning's Breeze	228.00	Dec-17	Willacy County, TX	13,300	Acciona 3.15 MW	76
Radford's Run	305.80	Dec-17	Macon County, IL	28,400	Vestas 2.2 MW	139
Stella	201.00	Dec-18	Kenedy County, TX	23,000	Acciona 3.15 MW	67
Total	3,873.11			425,986		2,277

E.ON North America Onshore Wind Farms

e-on